

**OXYGENATE TO OLEFIN PROCESS****ABSTRACT**

The invention relates to a process for converting an oxygenate feedstock into an olefin product stream comprising (a) contacting an oxygenate feedstock with a molecular sieve catalyst in a reactor under conditions effective to convert the feedstock into an olefin product stream and to form carbonaceous deposits on the catalyst; (b) contacting at least a portion of the catalyst having said carbonaceous deposits with an oxygen containing gas under conditions effective to obtain a regenerated catalyst having a reduced carbonaceous deposit level and having an increased molecular oxygen content; (c) removing at least 60% by volume of said molecular oxygen from the regenerated catalyst based upon the total volume of molecular oxygen; (d) returning said regenerated catalyst to said reactor; and (e) repeating steps (a) - (d).